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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF BLACK MOUNTAIN SEWER CORPORATION, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	DOCKET NO. SW-02361A-05-0657 **STAFF'S NOTICE OF FILING SURREBUTTAL TESTIMONY**

Staff of the Arizona Corporation Commission hereby files the Surrebuttal Testimony of Pedro M. Chaves and Marlin Scott, Jr. of the Utilities Division in the above-referenced matter.

RESPECTFULLY SUBMITTED this 4th day of May, 2006.

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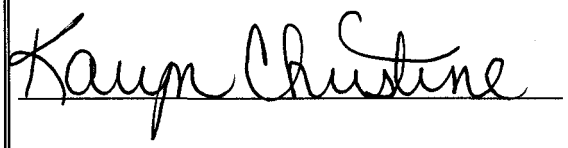

SURREBUTTAL

TESTIMONY

OF

PEDRO M. CHAVES

MARLIN SCOTT, JR.

DOCKET NO. W-01303A-05-0890

IN THE MATTER OF THE APPLICATION OF BLACK MOUNTAIN SEWER CORPORATION, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE BASED THERON

MAY 4, 2006

Chaves

BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER
Chairman
WILLIAM A. MUNDELL
Commissioner
MARC SPITZER
Commissioner
MIKE GLEASON
Commissioner
KRISTIN K. MAYES
Commissioner

IN THE MATTER OF THE APPLICATION OF BLACK MOUNTAIN SEWER CORPORATION, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON	DOCKET NO. SW-02361A-05-0657

SURREBUTTAL

TESTIMONY

OF

PEDRO M. CHAVES

PUBLIC UTILITIES ANALYST I

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 4, 2006

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SCHEDULES

EXECUTIVE SUMMARY
BLACK MOUNTAIN SEWER CORPORATION
DOCKET NO. SW-02361A-05-0657

The surrebuttal testimony of Staff witness Pedro M. Chaves addresses the following issues:

Capital Structure – Staff recommends that the Arizona Corporation Commission ("Commission") adopt a capital structure for Black Mountain ("Applicant") for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff's estimated return on equity ("ROE") for the Applicant is based on cost of equity estimates for the sample companies of 9.5 percent for the capital asset pricing model ("CAPM") and 9.6 percent for the discounted cash flow method ("DCF"). Staff's ROE recommendation does not reflect a financial risk adjustment due to the lower financial risk reflected in the Applicant's capital structure in relation to that of the sample companies because the Applicant's capital structure is reasonable and the Applicant should be encouraged, not discouraged, to maintain a healthy capital structure. If Staff had made an adjustment for financial risk, it would have been a 0.5 percent downward adjustment.

Overall Rate of Return – Staff recommends that the Commission adopt an overall rate of return ("ROR") of 9.6 percent.

Response to Mr. Bourassa's Rebuttal Testimony – The Commission should reject the Company proposed 11.0 percent ROE for the following reasons:

1. Mr. Bourassa's DCF estimates rely exclusively on analyst's forecasts. In addition, dividend growth is absent from Mr. Bourassa's DCF constant growth analysis.

2. Mr. Bourassa's risk premium analysis is not market based and inappropriately relies on forecasted interest rates for 10-year Treasuries for 2007-2008.

3. The Applicant's cost of capital witness is unable to demonstrate how claimed additional risks are not captured by market models.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Pedro M. Chaves. I am a Public Utilities Analyst employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Are you the same Pedro M. Chaves who filed direct testimony in this case regarding cost of capital?

A. Yes, I am.

Q. What is the purpose of your surrebuttal testimony in this proceeding?

A. The purpose of my surrebuttal testimony in this proceeding is to present an update of Staff's cost of capital analysis and related recommendations for Black Mountain Sewer Corporation ("Black Mountain" or "Applicant") and to respond to the rebuttal testimony of Black Mountain witness Mr. Thomas J. Bourassa.

Q. Please explain how Staff's surrebuttal testimony is organized.

A. Staff's surrebuttal testimony is presented in four sections. Section I is this introduction. Section II discusses Staff's updated cost of capital analysis. Section III presents Staff's comments on the rebuttal testimony of the Applicant's cost of capital witness, Mr. Thomas J. Bourassa. Lastly, Section IV presents Staff's recommendations.

II. UPDATED COST OF CAPITAL ANALYSIS

Q. Did Staff update its analysis concerning the Applicant's cost of equity ("ROE") since it filed its Direct Testimony?

A. Yes. Staff updated the ROE analysis to reflect more current information. Surrebuttal schedules PMC-1 to PMC-8 support Staff's updated ROE analysis.

Q. What is the updated COE estimate?

A. Staff's updated ROE estimate is 9.6 percent. Staff's ROE is based on cost of equity estimates for the sample companies of 9.5 percent for the capital asset pricing model ("CAPM") and 9.6 percent for the discounted cash flow method ("DCF"), as evidenced in Surrebuttal Schedule PMC-2. Staff's recommended ROE does not include a 50 basis point downward financial risk adjustment that would be applicable as quantified by the Hamada equation. Staff's ROE recommendation does not reflect a financial risk adjustment due to the lower financial risk reflected in the Applicant's capital structure in relation to that of the sample companies because the Applicant's capital structure is reasonable and the Applicant should be encouraged, not discouraged, to maintain a healthy capital structure.

Q. What is Staff recommending for Black Mountain's ROE?

A. Staff recommends a 9.6 percent ROE for Black Mountain which reflects its updated cost of equity estimates.

Q. Did Staff update its analysis concerning the Applicant's overall rate of return ("ROR")?

A. Yes.

Q. What is Staff's updated ROR recommendation for Black Mountain?

A. Staff recommends a 9.6 percent overall rate of return for Black Mountain. Staff's recommendation is based on a COE of 9.6 percent and a capital structure of 0.0 percent debt and 100.0 percent equity as shown on Surrebuttal Schedule PMC-1.

III. RESPONSE TO THE REBUTTAL TESTIMONY OF THE APPLICANT'S COST OF CAPITAL WITNESS MR. THOMAS J. BOURASSA

Q. Does Mr. Bourassa change the concluding recommendations of his direct testimony?

A. No. Mr. Bourassa reiterates his recommended 11.0 percent ROR based on a DCF analysis with the sole use of analysts' forecasts, with a risk premium analysis (based on analysts' forecasts as well) as a check for reasonableness.

Q. How does Staff respond to Mr. Bourassa's statement,

> **"Q. Do you agree with Mr. Chaves' arguments that comparable earnings analysis and the risk premium analysis (sic) are invalid because they are not market based?**
>
> **A. No. The comparable earnings approach does not deal with market data, but that is not the basis on which to evaluate the approach I employed. As I have testified, the risk premium approach is founded on directly observable market interest rates."**[1]

A. First, Mr. Bourassa's comment is not an accurate representation of Staff's testimony. Staff does not assert that earnings analysis and the risk premium analysis are invalid. For clarification, Staff's testimony is that these methods are not reliable indicators of the cost of equity, not that they are invalid. Second, as mentioned in Staff's direct testimony[2] Mr.

[1] Thomas J. Bourassa's rebuttal testimony; page 55.
[2] Pedro M. Chaves' ("PMC") Direct Testimony, page 40.

Bourassa's risk premium method relies on forecasted interest rates for 10-year Treasuries for 2007-2008. As discussed at length in Staff's direct testimony, analysts who forecast future rates do not have any more information about the future than what is already reflected in the current rate. Historically, forecasted interest rates have not been reliable.

Q. Please respond to Mr. Bourassa's statement, "Unless checks for reasonableness of the inputs and outputs of an analysis are made, the finance models may produce unrealistic results. Staff's DCF analysis, for example, relies heavily on inputs to the DCF model that skew the results downward. Staff relies on historical dividend per share growth and historical earnings per share growth in its application of the DCF model."[3]

A. Mr. Bourassa correctly notes that the inputs of finance models affect the outcomes. Generally, the most controversial aspect of a DCF analysis is the choice of inputs for the growth rate. Staff's methodology gives equal weight to historical and projected EPS, DPS, and sustainable growth components to provide a balanced and reasonable outcome that avoids the skewing that can occur by a less balanced analysis such as that prepared by the Company's witness. Calculation of Staff's DCF growth rate component is shown in Schedule PMC-7. Historical growth information is available to investors, and investors can reasonably be expected to use that information.

If Staff were to exclude historical dividends and historical EPS, the lowest growth components, as did the Company's witness, it would also be appropriate to exclude the highest grow components to maintain a balanced outcome. For example, if Staff were to discard the two highest and lowest growth estimates in Schedule PMC-7, Staff's growth

[3] Thomas J. Bourassa's Direct Testimony. Page 56.

estimate would have been 4.8 percent vis-à-vis the 6.3 percent growth rate included in Staff's DCF analysis.

Q. Does Staff have any comments on Mr. Bourassa's concern that Staff did not compute separate DCF results for historical DPS growth and historical EPS growth[4]?

A. Mr. Bourassa would prefer that Staff separately calculate a separate cost of equity for each of the six growth rates presented on Schedule PMC-7 under the erroneous presumption that the result for any growth rate would be discarded if it were unacceptably low based on his criteria. This is the same faulty, asymmetrical argument, as previously discussed, that he makes for discarding historical growth rates. It is unreasonable to assume that investors ignore information that suggests low outcomes and accept all information that suggests high outcomes. If Staff were to exclude historical DPS growth and historical EPS growth, the lowest growth components, as did the Company's witness, it would also be appropriate to exclude projected DPS growth and projected EPS growth, the highest growth components, to maintain a balanced outcome. If Staff had discarded the two highest and lowest growth factors, Staff's DCF constant growth cost of equity estimate would have been 7.9 percent vis-à-vis the 9.4 percent included in Staff's DCF analysis.

Q. How does Staff respond to Mr. Bourassa's contention about Staff expecting the market-to-book ratio to decline to 1.0[5]?

A. Mr. Bourassa's comments misinterpret Staff's comments regarding the market-to-book ratio. Staff testified that, in theory, the market-to-book ratio should decline to 1.0, if an entity had a market-to book ratio greater than 1.0 due to investors expecting earnings to exceed the cost of equity capital and the entity subsequently experience newly and

[4] Ibid. Page 62-63.
[5] Ibid. Page 57.

authorized rates equal to its cost of equity capital[6]. Nonetheless, as stated in Staff's direct testimony, Staff has assumed that investors expect the market-to-book ratio to remain greater than 1.0. Given that assumption, Staff added a stock financing growth rate (vs) term to the retention ratio (br) term to calculate its historical and projected sustainable growth rates[7]. Thus, Staff has utilized modern financial theory to account for the fact that investors might expect a market-to-book ratio greater than 1.0.

Q. Does Staff have any comments regarding Mr. Bourassa's statement, "The all-industry average return on equity was 15.4%, which is also substantially higher than the returns on equity being earned by the sample group of (...) publicly traded water utilities."[8]?

A. This example, as mentioned by Mr. Bourassa, is from a special edition published by *Business Week* entitled "Investment Outlook Scoreboard 2004". The 15.4 percent industry average return on equity to which Mr. Bourassa alludes reflects the average return on equity of all 900 largest U.S. publicly held companies selected by *Business Week*. This example is not meaningful, since it is not representative of utilities. The study cited by Mr. Bourassa segregates the sample companies into 24 industries, one of them being utilities. The average return on equity for the utilities industry group is 9.6 percent.

[6] PMC Direct Testimony. Page 23, lines 5 - 10
[7] Ibid. Page 20, lines 6-9
[8] Thomas J. Bourassa's Direct Testimony. Page 58 - 59.

Q. Does Staff have any comment regarding Mr. Bourassa's concerns that Staff did not use *Value Line's* published projected DPS and EPS growth rates, and that Staff's projected growth rates are overly optimistic and are far greater than those of analysts[9]?

A. Yes. Staff calculates the DPS and EPS growth rates based on *Value Line's* projections instead of directly using *Value Line's* given projections to reflect projections that exclude nonrecurring gains and losses. Staff revisited its DPS and EPS growth rate calculations and encountered an error. The corrected DPS and EPS growth rates are 3.8 percent and 12.1 percent, respectively, as shown in Surrebuttal Schedule PMC-7.

Q. How does Staff respond to Mr. Bourassa's assertion that Staff has ignored additional risks that result from the Company's small size and other firm-specific characteristics[10]?

A. The Commission has previously ruled that firm size does not warrant recognition of a risk premium[11]. In addition, it is important to remember that Black Mountain is a wholly owned subsidiary of Algonquin Water Services, which in turn is a wholly owned subsidiary of Algonquin Power Income Fund. Therefore, unlike a small company, Black Mountain has access to the markets via its parent company. Regarding firm-specific characteristics mentioned by the Applicant's cost of equity analyst, as mentioned in Staff's direct testimony, firm-specific risk can be eliminated through diversification and therefore it does not affect the cost of equity. Since investors who choose to be less than fully diversified must compete in the market with fully diversified investors, the former cannot expect to be compensated for firm-specific risk[12].

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[9] Ibid. Page 63 - 64.
[10] Ibid. Page 71.
[11] Examples can be found in Decision Nos. 64282 and 64727.
[12] PMC Direct Testimony. Page 12

Q. What is Staff's response to Mr. Bourassa's comment that the results of the CAPM should not be relied on this case[13]?

A. Yes. Staff is aware that the CAPM, akin to any other models for estimating the cost of equity, has limitations. However, as mentioned in Staff's direct testimony, Staff chose to use the CAPM model because it is widely recognized as an appropriate model and it has been used extensively to estimate the cost of equity[14]. Furthermore, the CAPM is market based which makes it a preferable model to calculate the cost of equity.

IV. STAFF RECOMMENDATIONS

Q. What are Staff's recommendations for Black Mountain's cost of capital?

A. Staff makes the following recommendations for Black Mountain's cost of capital:

1. Staff recommends a capital structure of 0.0 percent debt and 100.0 percent equity.
2. Staff recommends a cost of equity of 9.6 percent.
3. Staff recommends an overall rate of return of 9.6 percent.

Q. Does this conclude your Surrebutal testimony?

A. Yes, it does.

[13] Thomas J. Bourassa's Direct Testimony. Page 73
[14] PMC Direct Testimony. Page 12.

Black Mountain Sewer Corporation
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	9.6%	9.6%
Weighted Average Cost of Capital/ROR			**9.6%**
Company Proposed Structure			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	11.0%	11.0%
Weighted Average Cost of Capital/ROR			**11.0%**

[D] : [B] x [C]

Supporting Schedule: PMC-3

Black Mountain Sewer Corporation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]		[C]		[D]		[E]
DCF Method			D_1/P_0 [1]	+	g [2]	=	**k**
Constant Growth DCF Estimate			3.1%	+	6.3%	=	9.4%
Multi-Stage DCF Estimate						=	9.8%
Average of DCF Estimates							**9.6%**
CAPM Method	**Rf**	+	β [5]	x	**(Rp)**	=	**k**
Historical Market Risk Premium [3]	4.8%	+	0.74	x	**7.1%** [6]	=	10.1%
Current Market Risk Premium [4]	4.9%	+	0.74	x	5.4% [7]	=	8.9%
Average of CAPM Estimates							**9.5%**
					Average		**9.6%**
					Financial risk adjustment		-0.5%
					Total		**9.1%**

1 MSN Money and Value Line

2 PMC-7

3 Wall Street Journal (Rf) 5, 7, and 10 year Treasury rates

4 Wall Street Journal (Rf) 30 Year Treasury bond rate

5 Value Line

6 Historical Market Risk Premium (Rp) from Ibbotson Associates SBBI 2006 Yearbook

7 Testimony

Black Mountain Sewer Corporation
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
Company	Debt	Common Equity	Total
American States Water	50.8%	49.2%	100.0%
California Water	48.7%	51.3%	100.0%
Aqua America	56.2%	43.8%	100.0%
Connecticut Water	44.9%	55.1%	100.0%
Middlesex Water	60.7%	39.3%	100.0%
SJW Corp	62.1%	37.9%	100.0%
Average Sample Water Utilities	**53.9%**	**46.1%**	**100.0%**
Black Mountain Sewer Corporation[1]	**42.7%**	**57.3%**	**100.0%**

Source:

Sample Water Companies from Value Line

1 : Reflects actual capital structure. However, Staff adopted 100 percent equity as the capital structure for determining the rate of return to be consistent with treating the loan payments as operating expense.

Black Mountain Sewer Corporation
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 1995 to 2004 DPS[1]	Dividends Per Share Projected DPS[1]	Earnings Per Share 1995 to 2004 EPS[1]	Earnings Per Share Projected EPS[1]
American States Water	0.9%	1.5%	0.2%	14.9%
California Water	1.0%	1.9%	2.2%	8.0%
Aqua America	5.3%	7.9%	8.2%	13.4%
Connecticut Water	1.1%	No Projection	1.9%	No Projection
Middlesex Water	2.0%	No Projection	0.7%	No Projection
SJW Corp	3.8%	No Projection	4.0%	No Projection
Average Sample Water Utilities	**2.4%**	**3.8%**	**2.9%**	**12.1%**

1 Value Line

Black Mountain Sewer Corporation
Sustainable Growth
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth **1995 to 2004** br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth **1995 to 2004** br + vs	Sustainable Growth Projected br + vs
American States Water	2.5%	6.7%	1.5%	4.0%	8.2%
California Water	2.5%	4.8%	3.0%	5.6%	7.8%
Aqua America	4.2%	7.4%	7.6%	11.8%	15.0%
Connecticut Water	3.0%	No Projection	0.5%	3.5%	No Projection
Middlesex Water	1.4%	No Projection	4.4%	5.9%	No Projection
SJW Corp	5.0%	No Projection	0.0%	5.0%	No Projection
Average Sample Water Utilities	**3.1%**	**6.3%**	**2.8%**	**6.0%**	**10.3%**

[B]: Value Line
[C]: Value Line
[D]: Value Line and MSN Money
[E]: [B]+[D]
[F]: [C]+[D]

Black Mountain Sewer Corporation
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 4/5/2006	Book Value	Mkt To Book	*Value Line* Beta β	Raw Beta βraw
American States Water	AWR	**37.45**	15.86	2.4	**0.75**	0.60
California Water	CWT	**44.57**	15.82	2.8	**0.75**	0.60
Aqua America	WTR	**27.45**	6.30	4.4	**0.80**	0.67
Connecticut Water	CTWS	**25.16**	11.38	2.2	**0.75**	0.60
Middlesex Water	MSEX	**18.79**	8.30	2.3	**0.75**	0.60
SJW Corp	SJW	**25.74**	10.07	2.6	**0.65**	0.45
Average				**2.8**	**0.74**	**0.58**

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: -0.35 + [F] / 0.67

Black Mountain Sewer Corporation
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Utilities

[A]	[B]
Description	g
DPS Growth - Historical[1]	2.4%
DPS Growth - Projected[1]	3.8%
EPS Growth - Historical[1]	2.9%
EPS Growth - Projected[1]	12.1%
Sustainable Growth - Historical[2]	6.0%
Sustainable Growth - Projected[2]	10.3%
Average	**6.3%**

1 *Schedule PMC-4*

2 Schedule PMC-5

Black Mountain Sewer Corporation
Multi-Stage DCF Estimates
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[H]	[I]
Company	Current Mkt. Price (P_o)[1] 4/5/2006	Projected Dividends[2] (Stage 1 growth) (D_t) d_1	d_2	d_3	d_4	Stage 2 growth[3] (g_n)	Equity Cost Estimate (K)[4]
American States Water	37.5	0.91	0.97	1.03	1.10	6.8%	9.2%
California Water	44.6	1.21	1.29	1.37	1.45	6.8%	9.4%
Aqua America	27.5	0.44	0.47	0.50	0.53	6.8%	8.3%
Connecticut Water	25.2	0.88	0.93	0.99	1.05	6.8%	10.2%
Middlesex Water	18.8	0.69	0.73	0.78	0.83	6.8%	10.4%
SJW Corp	25.7	1.14	1.21	1.29	1.37	6.8%	11.1%

Average **9.8%**

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n}\left[\frac{1}{(1+K)}\right]^n$$

Where : P_0 = current stock price
D_t = dividends expected during stage 1
K = cost of equity
n = years of non – constant growth
D_n = dividend expected in year n
g_n = constant rate of growth expected after year n

1 [B] see schedule PMC-6

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2005 in current dollars.

4 Internal Rate of Return of Projected Dividends

Scott, Jr.